

therefor.

Page 7, line 29, after "mouse" insert --(SEQ ID NO: 6)-- therefor.

Page 7, line 29, after "mycobacterial" insert --(SEQ ID NO: 1)-- therefor.

Page 7, line 30, delete "(SEQ ID NOS: 4, 5, 6 and 1, respectively)."

Page 8, line 6, after "Ala]," insert --(residues 91 to 95 of SEQ ID NO: 1)--.

Page 8, line 7, after "Leu]" insert --(residues 256 to 260 of SEQ ID NO: 1)--.

Page 8, line 7, after "Val]." insert --(residues 257 to 261 of SEQ ID NO: 1)--.

Page 21, line 8, after "DGTTTATVLAQALVR," insert --(residues 86 to 100 of SEQ ID NO: 1)--.

Page 21, line 9, after "EESNTFGLQLELTEG" insert --(residues 176 to 190 of SEQ ID NO: 1)--.

Page 21, line 10, after "AVLEDPYILLVSSKV" insert --(residues 211 to 225 of SEQ ID NO: 1)--.

Page 21, line 11, after "STVKDLLPLLEKVIG" insert --(residues 226 to 240 of SEQ ID NO: 1)--.

Page 21, line 12, after "ALSTLVVNKIRGTFK" insert --(residues 256 to 270 of SEQ ID NO: 1)--.

Page 21, line 13, after "ELKERKHRIEDAVRN" insert --(residues 386 to 400 of SEQ ID NO: 1)--.

Page 21, line 14, after "DAVRNAKAAVEEGIV" insert --(residues 396 to 410 of SEQ ID NO: 1)--.

Page 21, line 15, after "APLKQIAFNSGLEPG" insert --(residues 446 to 460 of SEQ ID NO: 1)--.

Page 21, line 16, after "FLTTEAVVADKPEKE" insert

E13 --(residues 511 to 525 of SEQ ID NO: 1)---.

Page 25, line 16, after "ALSTLVVNKI" insert --(residues

E14 256 to 265 of SEQ ID NO: 1)---.

Page 25, line 16, after "ALSTLVNLRL," insert

E15 --(residues 282 to 291 of SEQ ID NO: 4)---.

Page 34, line 11, after "human" insert --(SEQ ID NO:

4)--- therefor.

Page 34, line 11, after "rat" insert --(SEQ ID NO: 5)---

therefor.

Page 34, line 11, after "mouse" insert --(SEQ ID NO:

6)--- therefor.

Page 34, line 11, after "M. Bovis BCG" insert --(SEQ

ID NO: 1)--- therefor.

Page 34, line 12, delete "(SEQ ID NOS: 4, 5, 6 and 1,

respectively)."

Page 34, line 33, after "hsp60" insert --Figure 14:

Aligned amino acid sequences of gluteraldehyde-3-phosphate

E16 dehydrogenase sequence of *Bacillus stearothermophilus* (SEQ ID NO:

2) and *Rattus norvegicus* (SEQ ID NO: 3)---.

REMARKS

Pursuant to the requirements of 37 C.F.R. §§1.821-1.825, Applicants submit the amendments presented above and the enclosed sequence listing and computer readable form. The six (6) amino acid sequences disclosed in the specification may be found in computer readable form in File HSP65A.SEQ on the enclosed diskette and are presented in the sequence listing on the enclosed substitute pages 34a-34m for insertion into the specification. Applicants have also amended the specification

to include appropriate sequence identifiers throughout. The sequences listed on pages 8 and 25 and in Table I on page 21 of the specification are subsequences of either SEQ ID NO: 1 or SEQ ID NO: 4. In accordance with MPEP §2422.03, these sequences are now labeled as "residues ____ to ____ of SEQ ID NO: ____." Applicants provide herewith substitute pages 21 and 21a for the Examiner's convenience which include the appropriate sequence identifiers added herewith to Table I. Therefore, the Examiner may wish to delete page 21 and insert therefore substitute pages 21 and 21a provided herewith.

Applicants hereby certify that the sequence listing in computer readable form supplied on the enclosed diskette as File HSP65A.SEQ is identical to the sequence listing presented on substitute pages 34a-34m. The material presented in computer-readable form is not new matter because it presents sequences identical to those disclosed in the specification and in Figs. 13 and 14 of the application, as filed.

Applicants believe that the requirements of 37 C.F.R. §§1.821-1.825 have been complied with and respectfully request allowance of claims 1-8 and 17-18.

Respectfully submitted,

WEBB ZIESENHEIM BRUENING LOGSDON
ORKIN & HANSON, P.C.

By

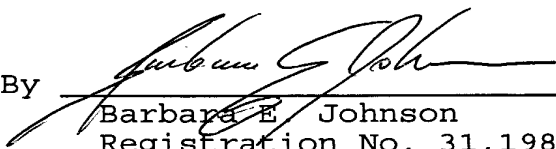

Barbara E. Johnson
Registration No. 31,198
Attorney for Applicants
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1818
Telephone: 412-471-8815
Facsimile: 412-471-4094

Table I

Mycobacterial hsp65 epitopes recognized by Lewis rat T cells (SEQ ID NO: 1).

Immunisation		hsp						T cell line
In vitro stimulation		-	hsp	-	hsp	-	hsp	
Epitope	Sequence ¹							
91-100	<u>DGTTATVLAQALVR</u>	(residues 86 to 100 of SEQ ID NO: 1)	+	-	-	-	+	H.18
176-190	<u>EESNTEGLQLELTG</u>	(residues 176 to 190 of SEQ ID NO: 1)	+++	+++	+++	+++	+	H.36
216-225	<u>AVLEDPYILLVSSKV</u>	(residues 211 to 225 of SEQ ID NO: 1)	+++	+++	+	+	+	H.43
226-235	<u>STVKDLLPLEKVI</u>	(residues 226 to 240 of SEQ ID NO: 1)	+++	+++	+	+	+	H.46
256-265	<u>ALSTLVNKRIGTFK</u>	(residues 256 to 270 of SEQ ID NO: 1)	+	+	+	-	+	H.52
386-400	<u>ELKERKRIEDAVRN</u>	(residues 386 to 400 of SEQ ID NO: 1)	-	+	-	+	-	-
396-405	<u>DAVRNAKAAVEEGIV</u>	(residues 396 to 410 of SEQ ID NO: 1)	+	+	-	-	+	H.80
446-455	<u>APLKQIAFNSGLEPG</u>	(residues 446 to 460 of SEQ ID NO: 1)	-	+	-	+	-	H.90
511-520	<u>FLTTEAVVADKPEKE</u>	(residues 511 to 525 of SEQ ID NO: 1)	+	+	+	+	+	H.103

Footnotes

1. The sequences of hsp65 peptides used to generate each line are shown; they correspond to the indicated parts of SEQ ID NO: 1. Core epitopes, as defined by responses to overlapping peptides, are denoted by underlined residues. Residues sharing identity with the corresponding sequence of rat hsp60 are in bold.

Differential recognition of epitopes following differing immunisation and restimulation protocols are summarised.

- No response
- + Minor response
- +++ Dominant Response
- 2. + and - in this column refer to whether a peptide-specific T cell line was generated from hsp65-PLNC.



Table II

T cell responses by immunisation with hsp65 peptides.

Rats were immunised with synthetic peptides containing individual hsp65 epitopes (100 μ g peptide/DDA per rat). Ten days later PLNC were isolated and tested for responses to overlapping peptides (20 μ g/ml). Peptide-specific T cell lines were generated by bulk in vitro stimulation of PLNC with immunising peptide. Lines were tested for responses to overlapping peptides (10 μ g/ml). All PLNC and T cell lines showed significant responses to 20 μ g/ml hsp65. Results are expressed as mean cpm of triplicate cultures. All SEM were less than 20%.

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